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CENTRAL FAX CENTER
APR 1 6 2007

REMARKS/ARGUMENTS

Claims 1, 3-13 and 15-20 are pending in the present application. With this amendment, claim 12 has been amended, and claim 13 has been canceled. Reconsideration of the claims is respectfully requested.

I. 35 U.S.C. § 103, Obviousness

I.A. Claims 1, 3-12, 15 and 18-20 over *Coombs* and Linux

The Examiner has rejected claims 1, 3-12, 15 and 18-20 under 35 U.S.C. § 103(a) as being unpatentable over *Coombs*, System and Method for Data Backup, U.S. Patent Application Publication No. US 2003/0177149, published September 18, 2003 (hereinafter "*Coombs*") and Linux 2.0 Manual Page for the Command "mount" (hereinafter "Linux"). This rejection, as it might be applied to the claims as amended, is respectfully traversed.

Applicant's claims 1, 12, and 18 are the independent claims. Applicant has not amended claim 1 or 18. Applicant has amended claim 12 to recite: A storage controller that is coupled between a computer system, which is external to the storage controller, and a storage system that includes at least one storage device, the storage controller comprising: a memory; receiving means for receiving backup parameters from the computer system; the backup parameters, set by an operator of the computer system, defining how a backup operation will be executed; a Personal Computer Memory Card International Association (PCMCIA) slot; invoking means for invoking a backup operation using the backup parameters; and responsive to a given event: determining means for determining if a removable non-volatile memory module is inserted in the PCMCIA slot and responsive to the removable non-volatile memory module being inserted in the PCMCIA slot, executing means for executing the backup operation to copy configuration information from the memory to the removable non-volatile memory module. Support for the amendments to claim 12 can be found in the specification on page 6, line 29, through page 7, line 1; page 7, line 10, through page 8, line 24; and Figures 2 and 3.

The Examiner asserts that *Coombs* teaches the features of Applicant's claims, but does not teach executing the backup operation is responsive to the removable non-volatile memory module being connected to the storage controller. The Examiner relies on *Linux* to teach this feature. Applicant respectfully disagrees that the combination of *Coombs* and *Linux* teaches the features of Applicant's claims.

Regarding claims 1 and 18, the combination of *Coombs* and *Linux* does not render these claims obvious because the combination does not teach or suggest executing the backup operation to store configuration information from the first storage controller to the removable non-volatile memory module.

Coombs teaches a backup process that backs up files from a primary storage device 22 to a backup storage device 24. *Coombs* does not teach executing the backup operation to store configuration from a storage controller to a memory module.

The Examiner asserts that the combination of the CPU 12, memory 14, I/O controller 16, network controller 18, and storage/device controller 20 of *Coombs* is analogous to the storage controller claimed by Applicant. Assuming for the sake of argument that the Examiner is correct and the combination does indeed teach a storage controller, the backup process must store configuration information from this storage controller to the backup storage device 24. *Coombs* does not teach, however, the backup process storing configuration information from CPU 12, memory 14, I/O controller 16, network controller 18, or storage/device controller 20, or the combination of these devices, to either primary storage device 22 or backup storage device 24.

In *Coombs*, a backup process backs up files from primary storage device 22 to backup storage device 24, as explained below:

> [0026] In a preferred embodiment, CPU 12 is a general purpose processor such as an AMD Athlon.TM. processor from Advanced Micro Devices, Inc. or Intel Pentium.TM. processor from Intel Corporation running under the control of a LINUX operating system (LINUX is a trademark of Linus Torvalds) (not shown). Computer system 10 includes a conventional file system and, typically, one or more application programs in a conventional configuration (all not shown). In the preferred embodiment discussed herein, backup processes, management processes and restore processes are performed by CPU 12 under the control of software prepared in accordance with the invention disclosed herein to **backup data stored on primary storage device 22 to backup storage device 24**, manage the backup data on backup storage device 24 and restore the backup data.
> [0028] In accordance with a preferred practice of the invention, the backup process coordinates periodic "full" (i.e. non-incremental) and "incremental" backups of the one or more system configuration files and the user files **from primary storage device 22 to backup storage device 24**. A full backup is a copy at a particular point in time of all the files to be backed up from primary storage device 22. An incremental backup is a copy at a particular point in time of data files to be backed up from primary storage device 22 and that were changed or added to primary storage device 22 subsequent to a previous backup. The incremental backup may be performed relative to a full backup or an another incremental backup as is well understood by persons skilled in the art. Moreover, the previous backup from which an incremental backup is based need not be the most recent backup as will be explained further below.

[Emphasis Added]

Coombs, paragraphs [0026] and [0028].

Linux teaches merely a mount command. The mount command does not teach executing the backup operation to store configuration information from the first storage controller to the removable non-volatile memory module.

Because neither *Coombs* nor *Linux* teaches or suggests executing a backup operation to store configuration information from a storage controller to a removable non-volatile memory module, the combination of *Coombs* and *Linux* does not render Applicant's claims 1 and 18 obvious.

Applicant's claims 8 and 20 describe restoring the configuration information from the removable non-volatile memory module to the second storage controller. In rejecting these claims, the Examiner referred to *Coombs*, paragraph 0054, which is reproduced below.

> [0054] The restore process is configured to operate as follows and as illustrated in flow chart form in FIG. 4. While a restore process is usually performed to restore data to the same storage device from which it was originally copied (i.e. a first device) the restore process may be configured to copy the data to be restored to another storage device (i.e. a second device coupled to the computer system (not shown)). Thus, persons skilled in the art understand that the second device may comprise the first device.

Coombs, paragraph [0054].

Coombs teaches data being restored to either the same storage device or a different storage device. A storage device was explained in paragraph 0022 as being a rewriteable media such as a fixed disk drive, mountable (i.e. selectively removable) disk drive, disk drive array or other rewritable media. As paragraph 0054 makes clear, data is restored to a storage device, i.e. a primary storage device 22 or backup storage device 24. The data is not restored to a storage controller.

Because *Coombs* does not teach restoring configuration information to a storage controller, the combination of *Coombs* and *Linux* does not render Applicant's claims 8 and 20 obvious.

Claims 2-7 and 9-11 depend, either directly or indirectly, from claim 1, and are patentable for the reasons given above. Claim 19 depends from claim 18 and is patentable for the reasons given

Regarding claim 12, Applicant now claims a storage controller that is coupled between a computer system, which is external to the storage controller, and a storage system that includes at least one storage device. The storage controller includes a memory and receiving means for receiving backup parameters from the computer system. The storage controller also includes a PCMCIA slot. Determining means determine if a memory module is inserted in the PCMCIA slot. If a memory module is inserted in the PCMCIA slot, executing means execute the backup operation to copy configuration information from the memory to the memory module. Thus, the configuration information is copied from the storage controller's memory to the memory module.

Therefore, according to Applicant's claim 12, the backup operation copies configuration information from the memory, which is included in the storage controller, to the memory module that is inserted in the PCMCIA slot. The combination of *Coombs* and *Linux* does not render Applicant's claims

obvious because the combination does not teach or suggest executing the backup operation to copy configuration information from the storage controller to a memory module. *Coombs* teaches a backup process that copies data from a primary storage device to a backup storage device. *Coombs* does not teach a backup process that copies data from what the Examiner believes is the storage controller to the backup storage device.

Applicant's claim 12 also recites the storage controller including receiving means for receiving backup parameters from the computer system, which is external to the storage controller. Invoking means, included in the storage controller, invoke a backup operation using the backup parameters that were received from the external computer system.

The combination of *Coombs* and *Linux* does not render Applicant's claim 12 obvious because the combination does not teach or suggest a storage controller including receiving means for receiving backup parameters from a computer system, which is external to the storage controller. *Coombs* teaches a computer system that includes a network controller for communications with another computer. However, *Coombs* does not teach or suggest receiving backup parameters from any other computer system.

Claim 15 depends from claim 12 and is patentable for the reasons given above.

Therefore, the rejection of claims 1, 3-12, 15 and 18-20 under 35 U.S.C. § 103 has been overcome.

I.B. Claims 13 and 16 over *Coombs* and Linux and further in view of *Bell*

The Examiner has rejected claims 13 and 16 under 35 U.S.C. § 103(a) as being unpatentable over *Coombs*, and Linux , in further view of U.S. Patent 5,410,707 issued to *Bell*. This rejection, as it might be applied to the claims as amended, is respectfully traversed.

Claim 13 has been canceled.

Claim 16 recites: The storage controller of claim 12, wherein the removable non-volatile memory module is a flash memory module.

The Examiner states:

> **Per claim 16**, Coombs does not specifically teach that the removable non-volatile memory module is a flash memory module, although it does teach using flash memory to store configuration data (see Pg. 2, Para. [0024], [0027] and [0028]). Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to use a flash memory as the removable non-volatile memory module taught by Coombs, since flash memory provides the advantages over removable hard disks in terms of size and easy of transportability. Furthermore, Bell teaches a storage controller which backs up data to a removable non-volatile memory module that is a flash memory module (see Bell, Col. 4, Ln. 10-17), and it would also have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to combine

> Bell's flash memory to Coombs teaching in order to reduce the size and improve the transportability of the backup device

Office Action dated January 16, 2007, pages 7 and 8.

Bell teaches bootstrap loading a processor from an external memory device, such as a flash memory card, instead of being loaded from an onboard internal ROM.

Coombs, *Linux*, nor *Bell* teaches or suggests (1) executing the backup operation to copy configuration information from the storage controller to a memory module, in combination with (2) a storage controller including receiving means for receiving backup parameters from a computer system, which is external to the storage controller. Thus, the combination of *Coombs*, *Linux*, and *Bell* does not teach or suggest executing the backup operation to copy configuration information from the storage controller to a memory module, and a storage controller including receiving means for receiving backup parameters from a computer system, which is external to the storage controller, in combination with wherein the removable non-volatile memory module is a flash memory module. Therefore, the combination of *Coombs*, *Linux*, and *Bell* does not render Applicant's claim 16 obvious.

I.C. Claim 17 over *Coombs*, Linux and *Bell* in further view of *Ban*

The Examiner has rejected claim 17 under 35 U.S.C. § 103(a) as being unpatentable over *Coombs*, Linux and *Bell* in further view of *Ban*, Flash File System, U.S. Patent No. 5,404,485, dated April 4, 1995 (hereinafter referred to as "*Ban*"). This rejection, as it might be applied to the claims as amended, is respectfully traversed.

Claim 17 recites: The storage controller of claim 16, wherein the flash memory module has a flash file system format for storing data.

The Examiner states:

> **Per claim 17,** Coombs and Bell do not specifically teach that the flash memory module has a flash file system format for storing data. However, Ban teaches a flash memory module that uses a flash file system format (Col. 1, Ln. 5-10) for providing compatible data management with existing operating systems (Col. 1, Ln. 29-49).
> Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the Applicant's invention to combine Ban's teaching with those of Coomb's and Bell's in order to provide compatible data management on the flash memory with existing operating systems.

Office Action dated January 16, 2007, pages 8-9.

Bell teaches a flash file system.

Coombs, *Linux*, *Bell*, nor *Ban* teaches or suggests (1) executing the backup operation to copy configuration information from the storage controller to a memory module, in combination with (2) a

storage controller including receiving means for receiving backup parameters from a computer system, which is external to the storage controller. Thus, the combination of *Coombs*, *Linux*, *Bell*, and *Ban* does not teach or suggest executing the backup operation to copy configuration information from the storage controller to a memory module, and a storage controller including receiving means for receiving backup parameters from a computer system, which is external to the storage controller, in combination with wherein the flash memory module has a flash file system format for storing data. Therefore, the combination of *Coombs*, *Linux*, *Bell*, and *Ban* does not render Applicant's claim 17 obvious.

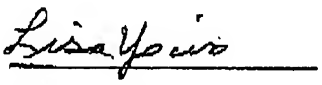
II. Conclusion

It is respectfully urged that the subject application is patentable over *Coombs*, Linux, *Bell*, and *Ban* and is now in condition for allowance.

The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: April 16, 2007

Respectfully submitted,



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